

precipitating the nucleic acid out of the starting solution in the presence of the suspended magnetically attractable beads whereby a nucleic acid precipitate becomes [non-specifically associated] aggregated with and entraps the beads,

applying a magnetic field to draw down the precipitate of the nucleic acid and the [associated] entrapped beads and to form a first supernatant liquid,

F1 separating the precipitate and the entrapped beads from the first supernatant liquid,

adding a liquid to the precipitate and the entrapped beads to re-dissolve the nucleic acid and re-suspend the beads,

applying a magnetic field to draw down the beads and to form a second supernatant liquid, and

separating from the beads the second supernatant liquid as said product solution containing the nucleic acid.

F2 324. (Twice amended) A method of making a product solution containing low molecular weight nucleic acid by treating a starting bacterial lysate containing low molecular weight nucleic acid by the use of suspended magnetically attractable beads which do not specifically bind the nucleic acid, comprising the steps of:

forming in the bacterial lysate a first precipitate selected from the group consisting of cell debris, protein and chromosomal DNA, in the presence of first suspended

magnetically attractable beads, which first precipitate becomes [non-specifically associated] aggregated with and entraps the first beads,

applying a magnetic field to draw down the first precipitate and the [associated] entrapped first beads and to form a supernatant starting solution containing the low molecular weight nucleic acid,

recovering the starting solution containing the low molecular weight nucleic acid from the first precipitate and the entrapped first beads,

F2 precipitating the low molecular weight nucleic acid out of the starting solution in the presence of second suspended magnetically attractable beads whereby a low molecular weight nucleic acid precipitate becomes [non-specifically associated] aggregated with and entraps the second beads,

applying a magnetic field to draw down the low molecular weight nucleic acid precipitate and the [associated] entrapped second beads and to form a first supernatant liquid,

separating the low molecular weight nucleic acid precipitate and the entrapped second beads from the first supernatant liquid,

adding a liquid to the low molecular weight nucleic acid precipitate to re-dissolve the nucleic acid and re-suspend the second beads,

applying a magnetic field to draw down the second beads, and

separating from the second beads a second supernatant liquid as said product solution containing the low molecular weight nucleic acid.

⁴
~~25~~. (Twice amended) A method of making a nucleic-acid-containing liquid by treating a solution containing protein and nucleic acid by the use of magnetically attractable beads which do not specifically bind the nucleic acid, comprising the steps of:

forming in the solution a first precipitate comprising protein and nucleic acid in the presence of the suspended magnetically attractable beads which first precipitate becomes [non-specifically associated] aggregated with and entraps the beads,

applying a magnetic field to draw down the entrapped beads [and the associated] aggregated with the first precipitate and to form a first supernatant liquid,

separating the first precipitate and entrapped beads from the first supernatant liquid,

adding a first liquid to the first precipitate and entrapped beads to selectively re-dissolve the protein and re-suspend the beads [and the associated] aggregated with the nucleic acid,

applying a magnetic field to draw down a second precipitate of the nucleic acid and the [associated] entrapped beads and to form a second supernatant liquid containing the protein,

separating the second supernatant liquid containing the protein from the second precipitate and entrapped beads,

adding a second liquid to the second precipitate to re-dissolve the nucleic acid and re-suspend the beads,

applying a magnetic field to draw down the beads and to form a third supernatant liquid containing the nucleic acid, and

separating from the beads the third supernatant nucleic-acid-containing liquid.

FL ³~~26~~. (Twice amended) A method for recovering nucleic acid from a starting solution of bacteriophage, by the use of magnetically attractable beads which do not specifically bind said bacteriophage, which method comprises the steps:

precipitating said bacteriophage out of the starting solution in the presence of first suspended magnetically attractable beads whereby the bacteriophage becomes [non-specifically associated] aggregated with and entraps the beads;

applying a magnetic field to draw down the precipitate of the bacteriophage and the [associated] entrapped first beads and to form a first supernatant;

separating the bacteriophage precipitate and the entrapped first beads from the first supernatant;

re-suspending [and] the bacteriophage precipitate and separating the entrapped first beads from the bacteriophage;

lysing said bacteriophage to form a lysate solution comprising protein and nucleic acid;

precipitating out of the lysate solution the nucleic acid in the presence of second suspended magnetically attractable beads whereby a nucleic acid precipitate becomes [non-specifically associated] aggregated with and entraps the second beads;

applying a magnetic field to draw down the nucleic acid precipitate and the [associated] entrapped second beads and to form a second supernatant liquid containing the protein;

F2
separating the nucleic acid precipitate and entrapped second beads from the second supernatant liquid;

adding a liquid to the nucleic acid precipitate to re-dissolve the nucleic acid and re-suspend the second beads;

applying a magnetic field to drawn down the second beads and to form a third supernatant liquid containing the nucleic acid; and

separating the third supernatant liquid containing the nucleic acid from the entrapped second beads.

REMARKS

The above amendment is responsive to telephone interviews with Examiner Reardon on September 18 and September 26, 1995.

The fundamental point of the above amendment is to recite that the precipitate, e.g., containing nucleic acid,